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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,157	03/31/2004	Michael Masterov	07754.046001	8197

7590 06/07/2006

Jeffrey S Bergman
OSHA LIANG LLP
1221 McKinney Street
Suite 2800
Houston, TX 77010

EXAMINER	
GREENE, DANIEL LAWSON	
ART UNIT	**PAPER NUMBER**
3663	

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/815,157	MASTEROV ET AL.	
	Examiner	Art Unit	
	Daniel L. Greene Jr.	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) *10-13* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/3/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Invention I, species 2A, 3A and 4A in the reply filed on 3/16/2006 is acknowledged. The traversal is on the ground(s) that the claims of groups I and II are commonly linked by the use of electrodes and an ion chamber to measure high-energy radiation and that NEWLY added claim 13 is a generic linking claim, linking the method recited in claim group I to the system recited in claim group II. This is not found persuasive because claim 13 and claims 1-9 are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because said particulars are not present in the claim AND the subcombination has separate utility such as a method of measuring high-energy radiation using any system other than that disclosed in claim 10.

Since newly added claim 13 would have properly been listed as invention III in the Election/Restriction requirement mailed 2/16/2006 had it been present and applicant has elected invention I, Claim 13 is hereby withdrawn as being directed towards a non-elected invention

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 10-13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 3/13/2006.

3. An action on the merits of claims 1-9 follows.

Drawings

4. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated, see, for example, the specification as filed paragraphs 0002 and 0010. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. As presently set forth, the Voltage Pulse Circuitry is essentially a black box with no description of the internals thereof. The disclosure is thus insufficient in failing to set forth in an adequate and sufficient fashion, a description of the internals of the item listed which would enable the device to perform all of the functions, etc. that are disclosed and claimed. If applicant is of the opinion that there is a description in the prior art (in the form of literature, etc. having a date prior to the filing date of this

application), of the internals of the item listed which can accomplish the disclosed and claimed functions, etc., copies of said literature, etc., must be submitted for appropriate review by the Office. See *In re Ghiron et al.*, 169 USPQ 723, 727.

Claim Rejections - 35 USC § 112

The following is a quotation of the first and second paragraphs of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 5 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.**

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It is not seen wherein the specification sets forth exactly how and in what manner the gain is determined by merely applying a ramping current to the electrodes. Although paragraph 0032 appears to discuss this issue, it is not seen wherein a complete method is set forth that accomplishes such.

7. **Claims 4-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

a. Claims 4 and 8 are vague, indefinite and incomplete in what all is meant by and encompassed by the phrase "determining a gain" because the claim fails to disclose exactly what gain is determined, accordingly the metes and bounds of the claims are undefined.

b. Claims 5, 6 and 7 are vague, indefinite and incomplete in what all is meant by and encompassed by the limitation "gain" because the claims fail to precisely claim which or what gain they are referring to, accordingly the metes and bounds of the claim are undefined.

c. Claim 9 is vague, indefinite and incomplete in what all is meant by and encompassed by the phrase "ramping current" because the specification only provides for a ramping voltage in paragraph 0032. It is not seen wherein the specification sets forth a ramping current, accordingly the metes and bounds of the claim are undefined.

d. Claim 8 is vague, indefinite and incomplete in what all is meant by and encompassed by the phrase "is based on the ion current signal and the gain". The limitation "is based on" does NOT particularly point out and distinctly claim how and in what manner the magnitude of the high-energy radiation is determined, hence the metes and bounds of the claim are undefined.

e. Claim 7 is vague, indefinite and incomplete in what all is meant by and encompassed by the phrase "uses" because the claim fails to particularly point out and distinctly claim how and in what manner the magnitude-adjusted ion

current signal is "used". Accordingly the metes and bounds of the claim are undefined.

f. Claim 6 is vague, indefinite and incomplete in what all is meant by and encompassed by the phrase "is used to adjust" because the claim fails to particularly point out and distinctly claim how and in what manner "the gain is used to adjust a magnitude of the ion current signal". Accordingly the metes and bounds of the claim are undefined.

g. Claim 3 is vague, indefinite and incomplete in what all is meant by and encompassed by the phrase "after the voltage pulse is turned off" because the specification paragraph 0022 states "no net current flows in the absence of an applied potential". It is not seen how the leakage current between the two electrode plates can be measured when the voltage pulse is turned off. Accordingly the metes and bounds of the claim are undefined.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 2, 4, 6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by 4,086,490 to Todt, Sr. (hereinafter Todt) supplied with applicant's IDS dated 3/3/2006.

Todt discloses a method for measuring high-energy radiation, comprising: applying a voltage pulse to electrodes in an ion chamber filled with a gas capable of forming charged ions by the high-energy radiation; measuring an ion current signal related to ion currents induced by the voltage pulse; and determining a magnitude of the high-energy radiation based on the ion current signal in, for example, the figures and column 1 lines 5-9, 19-25, 38-40, 64-68, column 2 lines 19-30 and column 3 lines 27-30.

Todt further discloses claim 2, i.e. measuring a leakage current signal, wherein the determining the magnitude of the high-energy radiation comprises subtracting the leakage current signal from the ion current signal, in, for example, column 3 lines 36-45 wherein it is understood that in order to subtract or suppress the background current (reads on leakage current), Todt must first know what that background current is by some sort of measurement.

Claims 4, 6 and 8 are inherently disclosed in column 2 lines 55-58 wherein it is understood that a gain is defined as the amount of increase that an amplifier provides on the output side of the circuit and that by running a signal through an amplifier a gain will be realized by the increase in the signal strength there through and thus has its magnitude adjusted by said gain. It is also noted that said gain must have been determined at some point in order to set up the system for operation and the claim language does not preclude the "determination" of "a gain" at any point in time.

As to limitations which are considered to be *inherent* in a reference, note the case law *In re Ludtke*, 169 USPQ 563, *In re Swinehart*, 169 USPQ 226, *In re Fitzgerald*, 205 USPQ 594, *In re Best et al*, 195 USPQ 430, and *In re Brown*, 173 USPQ 685,688.

9. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 3,319,066 to Gernert.

Gernert discloses a method for measuring high-energy radiation, comprising: applying a voltage pulse to electrodes in an ion chamber filled with a gas capable of forming charged ions by the high-energy radiation; measuring an ion current signal related to ion currents induced by the voltage pulse; and determining a magnitude of the high-energy radiation based on the ion current signal in, for example, the figures and column 2 lines 15+.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 3, 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Todt as applied to claims 1, 2, 4, 6 and 8 above and further in view of U.S. Patent 6,353,324 to Uber.

Todt discloses applicants invention as explained above, however it does not appear that Todt discloses measuring leakage current after the voltage pulse is turned off, nor that determining a gain comprises applying a ramping current to the electrodes (wherein it is the examiners understanding that a ramping "voltage" is applied with its subsequent current, not a ramping "current")

Uber teaches various methods for compensating ion chambers including subtracting leakage currents, calculating gains and applying ramping voltages to electrodes in, for example, column 2 lines 9-13 and 27-30, column 3 lines 55-62, column 8 lines 28-64, column 9 lines 30-35 and 54-63, column 12 lines 37-49 and 60-62, column 13 lines 54-64, column 14 lines 34-40, column 16 lines 19-30, column 23 lines 42-46, figure 5. etc.

At the time of the invention it would have been obvious to one of ordinary skill in the art to utilize the teachings of Uber to measure the leakage current signal after the voltage pulse is turned off for the benefit of isolating the current leakage from the rest of the system from the ionization chamber which allows for ease of system calibration (i.e. subtracting the leakage current from the ion current signal) as well as to ramp the voltage and accordingly current to the electrodes for the benefits of increased sensitivity, linearity, dynamic range, lower cost, etc. (e.g. column 3 lines 58-62)

Double Patenting

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. **Claims 1, 4 and 9-12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 4-8 of copending Application No. 11/049,360.** Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant application is the Genus and the copending application is a species. NOTE that the limitation "voltage pulse" in the instant application is generic to both positive and negative voltages and that AC current reads on voltage pulses because it is not a continuous current.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Examiner's Note: The Examiner has cited particular columns and line numbers in the references as applied to the claims for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel L. Greene Jr. whose telephone number is (571) 272-6876. The examiner can normally be reached on Mon-Fri 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DIG
2006-05-29

JACK KEITH
SUPERVISORY PATENT EXAMINER